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## Incheon, Republic of Korea

### ABSTRACT SUBMISSION — SOUMISSION DE RESUME

**Topic No. / Sujet n° : 7 or / ou**  
**proposed topic / sujet proposé: Visual aids (Advances in light technology)**

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#### ABSTRACT / RESUME:

Aids to Navigation(AtoN) are critically important for ships to navigate with safe. Thus, various physical ways are applied to enhance the recognition including visible aides, acoustic aids and etc. To provide the visible navigation information to ships, a variety of LED beacons are utilized as the AtoN because the LED light source consumes the reduced electrical power. Navigating light buoy transfer the light signal which is generated from small LED Beacon on top of the navigating light buoy. Since the navigating light buoy are rolled by waves, the narrow light signal from small LED beacon could be lost from the point of view of navigator in ship when the ship is close to navigating light buoy resulting in the crash between the ship and buoy on occasion. The objective of this study is to enhance the recognition of characterization of light by applying multi-light distribution LED lighting lantern as well as switchable light distribution according to the rolling motion of the buoy. By means of thoes advanced lighting technology for LED beacon , it is expect to prevent marine accident and to secure ocean safety by minimizing the occurrence of dark region to navigator under complicated oceanic environment.